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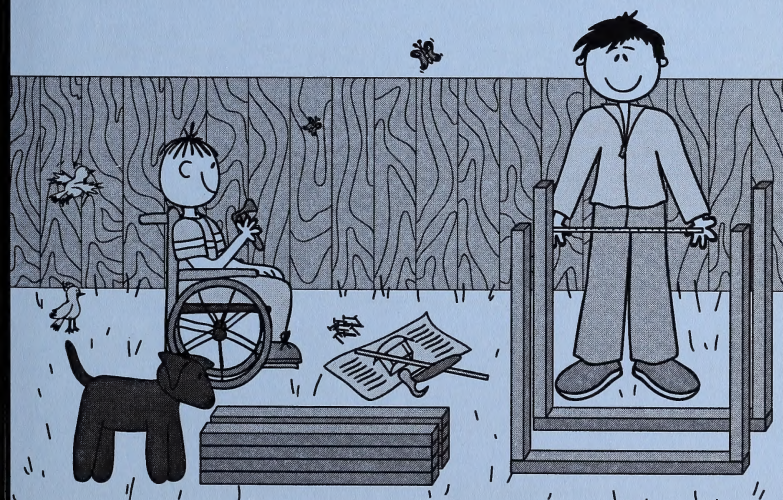


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## GRADE THREE MATHEMATICS: MODULE 5

# MEASUREMENT

Home Instructor's Guide: Days 1-9  
and  
Assignment Booklet 5A



Learning  
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LEARNING



Grade Three Mathematics  
 Module 5: Measurement  
 Home Instructor's Guide: Days 1–9 and Assignment Booklet 5A  
 Learning Technologies Branch  
 ISBN 0-7741-2313-3

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Students	✓
Teachers	✓
Administrators	
Home Instructors	✓
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- Learning Resources Centre, <http://www.lrc.learning.gov.ab.ca>

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## MODULE 5: MEASUREMENT

In Module 5, the student learns about many types of measurement. The student learns linear measurement, perimeter, and area. Capacity, mass, and time are also explored. Household objects and everyday situations are used to help the student see the importance of measurement in many areas of daily life. The activities to develop these concepts are designed to help the student gain an understanding of standard and non-standard measurement units. The student learns to choose the most suitable unit of measurement for the task and describe relationships between units.

Linear measurement is familiar to most students. They were introduced to the standard units of centimetres, decimetres, and metres in Grade Two Mathematics. The kilometre is introduced in this module. The student practises estimating, measuring, recording, and comparing using standard units.

Perimeter and area were studied in earlier grades, using non-standard units. In Grade Three Mathematics, the student learns to use centimetres, decimetres, metres, and kilometres to measure perimeter. Area is measured with non-standard units using manipulatives and grids. The student learns how to construct a shape to cover a specific area in non-standard units.

The student explores capacity, first using non-standard units, then using litres.

Kilograms and grams are introduced to help the student measure mass. The student uses a balance scale to estimate, measure, record, and compare the mass of objects. Constructing objects to equal a given mass is also practised.

The last topic in this module deals with the measurement of time. The student learns about the standard units of seconds, minutes, hours, days, weeks, months, and years and how they are related. Reading digital clocks and writing time to the nearest minute is also studied. By the end of Grade Three Mathematics, the student should be able to read and write the days of the week and months of the year.

As your student works through this module, call his or her attention to the many ways that you use measurement in everyday life. Find opportunities for your student to compare and estimate distance, area, or mass. You may think of questions such as the following:

- Do you think it's farther from the table to the sink or the table to the fridge?
- Which area is greater—this rug or the one in the bathroom?
- Which box is heavier, the laundry soap or the macaroni?
- How long do you think that took? When will you be finished?
- How many minutes, hours, days, weeks, or months until a special event?

Let your student help plan a schedule or make a timeline for a task. Presenting the student with a watch or personal alarm clock is a great way to encourage time-telling skills.



## DAILY SUMMARY

**DAY 1:** The student reviews information about linear measurement introduced in earlier grades. The first activity reviews non-standard measurement using pennies as the unit. The student also reviews how to measure using a centimetre ruler. The decimetre and metre are discussed next. Help your student construct a 100-cm (1-m) measure using adding-machine paper or other suitable paper strips. Near the end of the lesson, the kilometre is introduced and its relationship to a metre is discussed. Day 1 has no assignment.

### DAY 1: LESSON 1

#### Answers

1. Answers will vary. A new pencil is about 9 or 10 pennies long.
2. The answers for questions a. and c. will vary depending upon the size of the fork and the student's hand. Use the pennies to check your student's measurements.
  - a. A fork is about 9 pennies long.
  - b. The bottom of this page is about 15 pennies long.
  - c. Your hand is about 6 pennies long.
3. Answers will vary.
  - a. Something that is about as long as 1 cm is the width of a finger, a penny, a staple, or a pencil. Accept any reasonable answer.
  - b. Something about as long as 1 mm is the height of a dime, the height of thin cardboard, or the width of the lead in a pencil.
4.
  - a. The paper clip is about 3 cm long.
  - b. The pen is about 14 cm long.
  - c. The scissors are about 12 cm long.
  - d. The two-dollar coin is about 3 cm wide.

### DAY 1: LESSON 2

#### Answers

1. Answers will vary. The student may discover that a decimetre is about as long as a new crayon, a short pencil, an individual-serving cereal box, a computer disc, or the width of a hand including the thumb. Accept any reasonable answer.
2. Answers will vary. The student may discover that a metre is about as wide as a single bed, a table, or a hallway. It is as high as a door knob or a counter. A metre is as long as a giant step. Accept any reasonable answer.

**DAY 1: LESSON 3**

This will be your student's first encounter with measuring distances in kilometres. Spend some time discussing how far a kilometre is using locations and communities your student may travel to. While travelling use road signs to discuss and compare distances in kilometres.

**DAY 2:** A variety of activities involving estimating, measuring, and recording linear measurement are presented in this lesson. The student learns how to measure to the nearest centimetre, decimetre, and metre. Measurement tools and estimation strategies for kilometres are discussed.

**DAY 2: LESSON 1****Answers**

1. Estimate: 9 staples      Estimate: 9 cm
2. a. The width of the student's little finger or the length of a fingernail may be about 1 cm. Accept any reasonable answer.
- b. The student's estimate should be about 7 cm.
3. Estimates and answers will vary. On small objects, most students should be able to estimate within 2 or 3 cm of the correct measurement. On larger objects, a range of 5 cm is acceptable. Measure each of the items to confirm the measurements.

**DAY 2: LESSON 2**

1. Answers will vary. The width of the student's hand at the widest part may be close to 1 dm.
2. Estimates and answers will vary. Most students should be able to estimate within 1 dm of the correct measurement. Measure each of the items to confirm the measurements.

**DAY 2: LESSON 3**

1. Measure your student's height and arm span to see which is closer to 1 metre. Theoretically, the measures should be the same.
2. Estimates and answers will vary.
3. Estimates and answers will vary. Most students should be able to estimate within 1 m of the correct measurement on short distances. Measure each of the items to confirm the measurements.
4. 1 kilometre = 1000 metres



Encourage your student to select a spot that is 1000 metres or 1 kilometre away. If possible, use a known distance or a car odometer to check your student's guess. Discuss your findings with the student.

**DAY 3:** Comparing and ordering length are today's topics. Strategies for estimating comparative lengths, widths, or heights are introduced. The student also learns how to compare lengths when the units used to describe the object are different.

### DAY 3: LESSON 1

#### Answers

1. The giraffe is taller.
2. Arrow **A** is longer.
3. Lightning bolt **B** is longer.
4. Train A is shorter.
5. Door B is wider.
6. Table A is wider.
7. Cake B is taller.
8. a. 5 metres = 500 cm                      b. 2 metres = 200 cm  
c. 10 metres = 1000 cm                  d. 8 metres = 800 cm

### DAY 3: LESSON 2

#### Answers

1. Sarah is shortest.
2. Mom is tallest.
3. Mom    Dad    Oliver    Sarah
4. The doctor's office is the farthest from Sarah's house.
5. Sarah's friend's house is closest to her house.
6. It is 3000 metres to Sarah's friend's house.

**DAY 4:** Choosing the best measurement tool is discussed. The student practises choosing the best unit of measurement in a variety of scenarios.

In Module 5, the student will begin doing the timed Multiplication Number Fact exercises. Twenty-five multiplication facts are presented. Continue to spend time practising multiplication facts with your student.

## DAY 4: LESSON 1

### Answers

1. a. 1 decimetre = **10** centimetres  
b. 1 metre = **100** centimetres  
c. 1 kilometre = **1000** metres
2. a. metres  
b. centimetres  
c. centimetres  
d. metres; perhaps centimetres for a young tree  
e. kilometres; perhaps metres

## DAY 4: LESSON 2

3. a. tape measure or perhaps an odometer  
c. tape measure or perhaps a ruler  
e. ruler
- b. ruler or maybe a small tape measure  
d. odometer

### Timed Exercise Answers:

$$4 \times 4 = \mathbf{16} \quad 5 \times 8 = \mathbf{40} \quad 8 \times 3 = \mathbf{24} \quad 6 \times 6 = \mathbf{36} \quad 9 \times 4 = \mathbf{36} \quad 4 \times 3 = \mathbf{12}$$

$$5 \times 5 = \mathbf{25} \quad 4 \times 2 = \mathbf{8} \quad 3 \times 6 = \mathbf{18} \quad 8 \times 4 = \mathbf{32} \quad 5 \times 3 = \mathbf{15} \quad 9 \times 2 = \mathbf{18}$$

$$\begin{array}{r} 7 \\ \times 4 \\ \hline 28 \end{array}$$

$$\begin{array}{r} 9 \\ \times 3 \\ \hline 27 \end{array}$$

$$\begin{array}{r} 8 \\ \times 1 \\ \hline 8 \end{array}$$

$$\begin{array}{r} 6 \\ \times 5 \\ \hline 30 \end{array}$$

$$\begin{array}{r} 4 \\ \times 6 \\ \hline 24 \end{array}$$

$$\begin{array}{r} 5 \\ \times 7 \\ \hline 35 \end{array}$$

$$\begin{array}{r} 5 \\ \times 2 \\ \hline 10 \end{array}$$

$$\begin{array}{r} 0 \\ \times 6 \\ \hline 0 \end{array}$$

$$\begin{array}{r} 7 \\ \times 7 \\ \hline 49 \end{array}$$

$$\begin{array}{r} 9 \\ \times 5 \\ \hline 45 \end{array}$$

$$\begin{array}{r} 6 \\ \times 7 \\ \hline 42 \end{array}$$

$$\begin{array}{r} 4 \\ \times 8 \\ \hline 32 \end{array}$$

$$\begin{array}{r} 8 \\ \times 2 \\ \hline 16 \end{array}$$



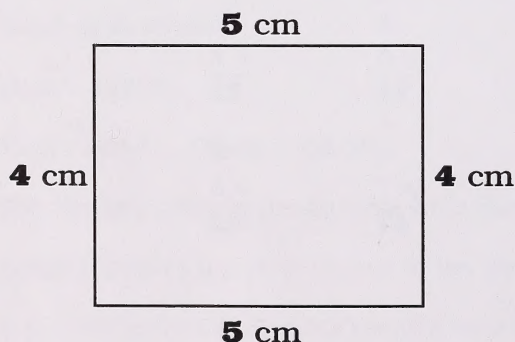
**DAY 5:** Measuring perimeter is introduced in this lesson. The student uses manipulatives, grids, and rulers to find the perimeter of a variety of shapes. By working through the examples, the student will discover how to add the lengths of each side of a figure to find the perimeter.

## DAY 5: LESSON 1

### Answers

1. It is 3 units or squares long.
2. It is 2 units or squares high.
3. It is 3 units or squares long.
4. It is 2 units or squares high.
5.  $3 + 2 + 3 + 2 = 10$  units
6. The perimeter is **10** units.
7. Sarah and her dad were using metres to measure, so the perimeter of the pen is **10** metres.
8. a.  $5 + 3 + 5 + 3 = 16$   
The perimeter is **16** units.
- b.  $7 + 2 + 7 + 2 = 18$   
The perimeter is **18** units.
- c.  $6 + 4 + 6 + 4 = 20$   
The perimeter is **20** units.

9.





10.  $5 + 4 + 5 + 4 = 18$   
The perimeter is **18** cm.
11. The opposite sides of each rectangle are the same length.
12. a.  $4 + 4 + 6 + 6 = 20$  The addends might be in a different order.  
The perimeter is **20** cm.
- b.  $1 + 1 + 10 + 10 = 22$  The addends might be in a different order.  
The perimeter is **22** cm.

## DAY 5: LESSON 2

### Answers

1.  $3 \text{ cm} + 4 \text{ cm} + 4 \text{ cm} = 11 \text{ cm}$
2. a.  $2 \text{ cm} + 2 \text{ cm} + 3 \text{ cm} = 7 \text{ cm}$  The order of the addends might be different.  
The perimeter is **7** cm.
- b.  $4 \text{ cm} + 3 \text{ cm} + 6 \text{ cm} = 13 \text{ cm}$  The order of the addends might be different.  
The perimeter is **13** cm.
- c.  $5 \text{ cm} + 4 \text{ cm} + 6 \text{ cm} = 15 \text{ cm}$  The order of the addends might be different.  
The perimeter is **15** cm.
3. The order of the addends for a., b., c., and d. may be different.
- a.  $5 \text{ cm} + 4 \text{ cm} + 3 \text{ cm} + 2 \text{ cm} + 2 \text{ cm} + 2 \text{ cm} = 18 \text{ cm}$   
The perimeter is **18** cm.
- b.  $5 \text{ cm} + 1 \text{ cm} + 1 \text{ cm} + 2 \text{ cm} + 1 \text{ cm} + 1 \text{ cm} + 5 \text{ cm} + 4 \text{ cm} = 20 \text{ cm}$   
The perimeter is **20** cm.
- c.  $7 \text{ cm} + 1 \text{ cm} + 1 \text{ cm} + 1 \text{ cm} + 6 \text{ cm} + 2 \text{ cm} = 18 \text{ cm}$   
The perimeter is **18** cm.
- d.  $14 \text{ cm} + 1 \text{ cm} + 2 \text{ cm} + 1 \text{ cm} + 16 \text{ cm} + 2 \text{ cm} = 36 \text{ cm}$   
The perimeter is **36** cm.

**DAY 6:** Finding area using non-standard units is the topic of this lesson. Pattern block units are used to measure the area of real objects and rectangular figures. Finding the area for other shapes is also discussed.



**DAY 6: LESSON 1****Answers**

1. It takes **6** square blocks to cover the space inside the pen.
2.
  - a. The area of the rectangle is **2** square units.
  - b. The area of the square is **4** square units.
  - c. The area of the rectangle is **3** square units.
  - d. The area of the rectangle is **5** square units.
3. If your student has a TI-108 calculator (with the lid on), the area the calculator covers is about 84 square units. The answers will vary if other calculators are used. Multiply the length times the width to verify your student's count.
4. The answers will vary depending upon the object that is used. Multiply the length times the width to verify your student's count. Remind the student to count the squares that are more than one-half inside the line.
5. 
 

a. Perimeter: <b>20</b> units	b. Perimeter: <b>16</b> units	c. Perimeter: <b>14</b> units
Area: <b>25</b> square units	Area: <b>12</b> square units	Area: <b>12</b> square units

**DAY 6: LESSON 2****Answers**

1. The answer will vary depending upon the size of your student's hand. Count to verify that the answer is reasonably accurate.
2. The answer will vary depending upon the size of the cup. Count to verify that the answer is reasonably accurate.

**DAY 7:** In this lesson, the student compares and orders figures or objects based on their perimeter or area. The student is encouraged to first estimate and then measure to determine which figure or object has a greater or lesser area or perimeter.

**DAY 7: LESSON 1****Answers**

1. The length of each strip is the same.
2. Answers will vary. Some students may think the area will be the same because the perimeter is the same.



3. a. The area of model 1 is **4** square units.  
b. The area of model 2 is **6** square units.
4. Model 2 has the greater area.
5. Luke's dad should build a garage shaped like Model **2** to get the most space inside.
6. a. Perimeter of A: **16** cm                      Perimeter of B: **18** cm  
Area of A: **15** square units                      Area of B: **14** square units  
  
b. Shape **B** has the greater perimeter. Shape **A** has the greater area.
7. a. Perimeter of A: **16** cm                      Perimeter of B: **16** cm  
Area of A: **16** square units                      Area of B: **12** square units  
  
b. They have the **same** perimeter. Shape **B** has the greater area.
8. a. Perimeter of A: **18** cm                      Perimeter of B: **14** square cm  
Area of A: **8** square units                      Area of B: **8** square units  
  
b. Shape **A** has the greater perimeter. Shape **A** and Shape **B** have the same area.

## DAY 7: LESSON 2

### Answers

1. Shape A and B would have the **X** to show the best estimate.  
Shape A would have the **✓** to show the best estimate.

Shape A: Perimeter: <b>22</b> units	Area: <b>26</b> square units
Shape B: Perimeter: <b>22</b> units	Area: <b>24</b> square units
Shape C: Perimeter: <b>20</b> units	Area: <b>17</b> square units

Discuss with the student if the estimates were correct and why or why not.

2. Shape B would have the **X** to show the best estimate.  
Shape A would have the **✓** to show the best estimate.

Shape A: Perimeter: <b>18</b> units	Area: <b>20</b> square units
Shape B: Perimeter: <b>22</b> units	Area: <b>15</b> square units
Shape C: Perimeter: <b>18</b> units	Area: <b>16</b> square units

Discuss with the student if the estimates were correct and why or why not.



**DAY 8:** Activities that encourage the student to construct figures of a specific area are presented. Grid paper is used to help the student create various figures. The relationship between an area grid and a multiplication array is examined to show the student an easier way to find area.

## DAY 8: LESSON 1

### Answers

1. a. Area: **16** square units                      b. Area: **16** square units
2. The area is the same.
3. Area: **4** square units
4. The student's shape may look like one of the following.



5. Area: **12** square units

The grid shape may vary. Count the units to verify that the shape has 12 square units.

6. a. The grid shape may vary. Count the units to verify that the shape has 24 square units.
- b. The grid shape may vary. Count the units to verify that the shape has 9 square units.
- c. The grid shape may vary. Count the units to verify that the shape has 18 square units.

## DAY 8: LESSON 2

1.  $4 \times 3 = 12$   
The area is **12** square units.
2. a.  $5 \times 8 = 40$   
The area is **40** square units.
- b.  $6 \times 4 = 24$   
The area is **24** square units.
- c.  $2 \times 7 = 14$   
The area is **14** square units.
- d.  $5 \times 5 = 25$   
The area is **25** square units.



**Timed Exercise Answers:**

$7 \times 4 = 28 \quad 0 \times 8 = 0 \quad 9 \times 3 = 27 \quad 1 \times 6 = 6 \quad 8 \times 4 = 32 \quad 4 \times 3 = 12$

$9 \times 5 = 45 \quad 3 \times 2 = 6 \quad 6 \times 6 = 36 \quad 2 \times 4 = 8 \quad 7 \times 5 = 35 \quad 8 \times 2 = 16$

$$\begin{array}{r} 6 \\ \times 4 \\ \hline 24 \end{array}$$

$$\begin{array}{r} 5 \\ \times 3 \\ \hline 15 \end{array}$$

$$\begin{array}{r} 9 \\ \times 1 \\ \hline 9 \end{array}$$

$$\begin{array}{r} 4 \\ \times 5 \\ \hline 20 \end{array}$$

$$\begin{array}{r} 2 \\ \times 6 \\ \hline 12 \end{array}$$

$$\begin{array}{r} 3 \\ \times 7 \\ \hline 21 \end{array}$$

$$\begin{array}{r} 9 \\ \times 2 \\ \hline 18 \end{array}$$

$$\begin{array}{r} 5 \\ \times 6 \\ \hline 30 \end{array}$$

$$\begin{array}{r} 6 \\ \times 7 \\ \hline 42 \end{array}$$

$$\begin{array}{r} 8 \\ \times 5 \\ \hline 40 \end{array}$$

$$\begin{array}{r} 2 \\ \times 7 \\ \hline 14 \end{array}$$

$$\begin{array}{r} 3 \\ \times 8 \\ \hline 24 \end{array}$$

$$\begin{array}{r} 7 \\ \times 7 \\ \hline 49 \end{array}$$

**DAY 9:** A variety of problems involving measurement are offered. The student applies the things learned in the previous lessons to solve the word problems.

After the student has completed today's activities and assignments, have the student complete the Student's Checklist and Student's Comments. Complete the Home Instructor's Checklist and Home Instructor's Comments. Submit Assignment Booklet 5A to the teacher.

**DAY 9: LESSON 1****Answers**

In questions 1 and 2, the student should show his or her calculations or method of solving the problem as well as writing a sentence to answer the questions.

1. a.  $6 \times 5 = 30$  (Another way to solve this problem would be  $5 + 5 + 5 + 5 + 5 + 5 = 30$ .)  
It would take Sarah 30 minutes to ride her bike to Forest View.
- b.  $3 \times 5 = 15$  or  $5 + 5 + 5 = 15$   
It would take Sarah 15 minutes to ride her bike to Fish Lake.
- c.  $10 - 3 = 7$   
It is 7 kilometres farther to South River.
- d.  $2 \times 10 = 20$  or  $10 + 10 = 20$   
Sarah would go 20 kilometres if she rode to South River and back.

2. a.  $4 \times 20 = 80$  cm or  $20 + 20 + 20 + 20 = 80$  cm  
The board Luke found will be long enough for the walls.
- b.  $22 + 22 = 44$  cm  
The board will not be long enough for the roof pieces.

## DAY 9: LESSON 2

### Answers

1. The student needs to find out how long the strings are altogether.
2. The student will need to add to find the answer.
3. a. The string that is 1 metre is **100** cm.  
b. The string that is 6 decimetres is **60** cm.
4. a.  $100 + 60 + 80 = 240$  cm  
b. The total length of the strings is 240 centimetres (cm).



# ASSIGNMENT BOOKLET 5A

Grade Three Mathematics  
Module 5: Days 1–9

## Home Instructor's Comments and Questions

\_\_\_\_\_  
Home Instructor's Signature

## FOR SCHOOL USE ONLY

Assigned Teacher:  
\_\_\_\_\_

Date Assignment Received:  
\_\_\_\_\_

Grading:  
\_\_\_\_\_

Additional Information:  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

## FOR HOME INSTRUCTOR USE

(if label is missing or incorrect)

Student File Number:  
\_\_\_\_\_  
\_\_\_\_\_

Date Submitted:  
\_\_\_\_\_  
\_\_\_\_\_

Apply Module Label Here

Name

Address

Postal Code

*Please verify that preprinted label is for  
correct course and module.*

## Teacher's Comments

\_\_\_\_\_  
Teacher's Signature

Home Instructor: Keep this sheet when it is returned to you as a record of the student's progress.

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- Has your work been reread to be sure the spelling and details are correct?
- Is the record form filled out and the correct module label attached?

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**Send all letters in a separate envelope.**

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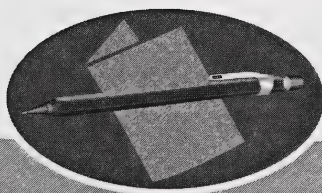


# **Grade Three Mathematics**

## **Module 5**

### **Measurement**

#### **ASSIGNMENT BOOKLET 5A**



Learning  
Technologies  
Branch

**Alberta**  
LEARNING

Grade Three Mathematics  
Module 5: Measurement  
Assignment Booklet 5A  
Learning Technologies Branch

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Students	✓
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Other	



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1. a. A centimetre is about as long as a \_\_\_\_\_.

b. A metre is \_\_\_\_\_ centimetres.

c. A decimetre is \_\_\_\_\_ centimetres.

d. A kilometre is \_\_\_\_\_ metres.

2. Estimate and then measure the length of each pencil. Use your centimetre and decimetre rulers.



estimate:

measurement:

\_\_\_\_\_ cm

\_\_\_\_\_ cm

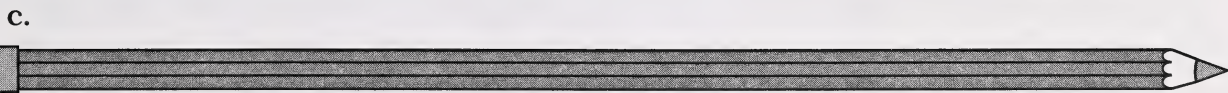


estimate:

measurement:

\_\_\_\_\_ cm

\_\_\_\_\_ cm



estimate:

measurement:

\_\_\_\_\_ dm

\_\_\_\_\_ dm

3. List 3 things in your kitchen that are less than 1 metre long.

---

---

---

4. List 3 things in your kitchen that are more than 1 metre high.

---

---

---

5. Write the name of a measuring tool you could use to measure these distances.

a. centimetres \_\_\_\_\_

b. decimetres \_\_\_\_\_

c. metres \_\_\_\_\_

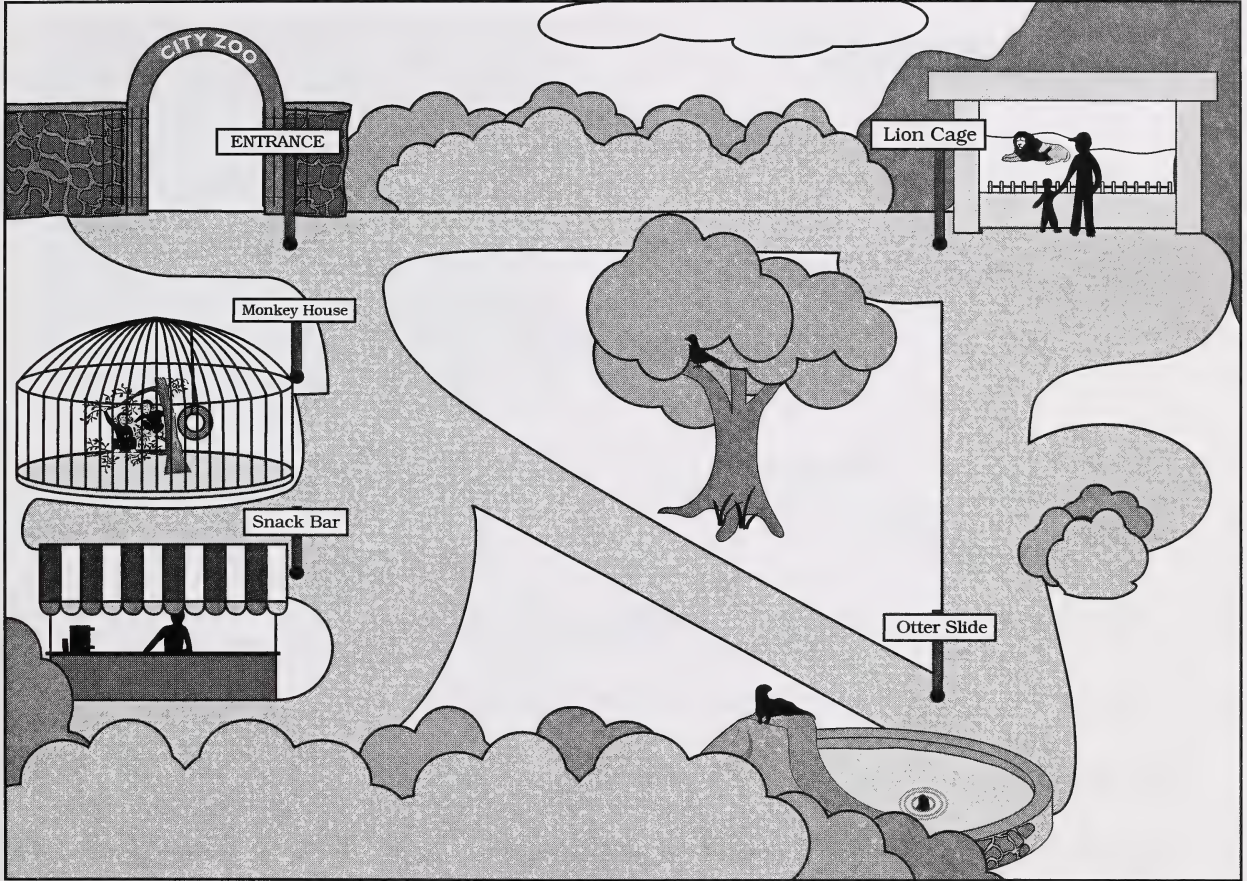
d. kilometres \_\_\_\_\_

6. Using your ruler, draw a line that is 15 cm long.

7. Using your ruler, draw a line that is 1 decimetre long.



8. Use your centimetre ruler and the dots on the map to measure the distances.



State how many centimetres it is from the

a. zoo entrance to the lion's cage

\_\_\_\_\_ cm

b. monkey house to the snack bar

\_\_\_\_\_ cm

c. otter slide to the lion's cage

\_\_\_\_\_ cm

d. monkey house to the otter slide

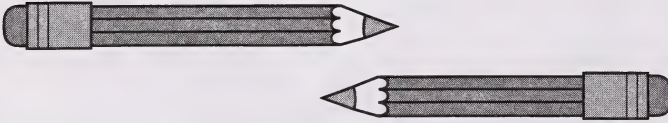
\_\_\_\_\_ cm

e. zoo entrance to the monkey house

\_\_\_\_\_ cm

1. Circle the object that is **longer** in each pair. You may need to measure.

a.



b.



c.



2. a. How many centimetres are in 3 decimetres? \_\_\_\_\_ cm

b. How many centimetres are in 4 metres? \_\_\_\_\_ cm

c. How many metres are in 2 kilometres? \_\_\_\_\_ m

3. Circle the distance that is **shorter** in each pair.

a. 500 metres    or    1 km

b. 30 cm    or    2 decimetres

c. 2 metres    or    300 cm

d. 5 dm    or    45 cm



4. Use the chart to answer the following questions.

Animal	Approximate Height
horse	200 cm
giraffe	6 m
dog	50 cm
lion	1 m
cat	20 cm

a. Which animal is the shortest? \_\_\_\_\_

b. Which animal is the tallest? \_\_\_\_\_

c. Write the animals in order from tallest to shortest.

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## 1. Journal Entry

Tell about a time that you measured something in real life (not for your Module 5 work). What did you measure? Why? What units of measurement did you use? What tool or tools helped you measure?

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2. Write **centimetre**, **metre**, or **kilometre** to describe the unit that would be best to measure each of the following:

- a. a nail \_\_\_\_\_
- b. a garden hose \_\_\_\_\_
- c. the distance from one fence post to the next \_\_\_\_\_
- d. a pop bottle \_\_\_\_\_
- e. a ball of kite string \_\_\_\_\_
- f. the distance to your dentist's office \_\_\_\_\_
- g. the width of a doorway \_\_\_\_\_
- h. the length of your yard \_\_\_\_\_
- i. the distance between buttons on a coat \_\_\_\_\_
- j. the distance between two cities \_\_\_\_\_



**1. Journal Entry**

You found out that the opposite sides of a rectangle have the same measurement. How can knowing this help you find the perimeter of a rectangle?

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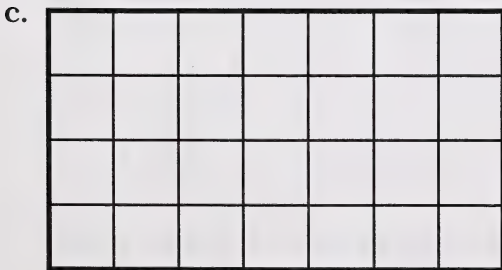
**2. Find the perimeter of these rectangles. Each square is 1 cm long and 1 cm high.**



The perimeter is \_\_\_\_\_ cm.



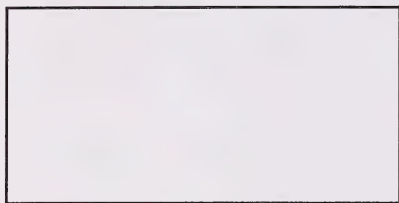
The perimeter is \_\_\_\_\_ cm.



The perimeter is \_\_\_\_\_ cm.

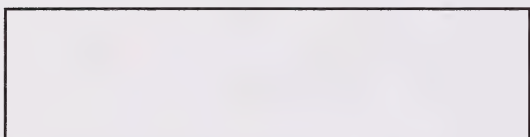
3. Use your centimetre ruler to find the perimeter of each of the shapes.

a.



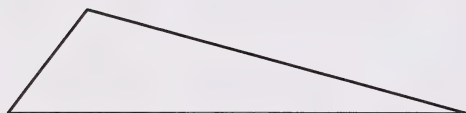
The perimeter is \_\_\_\_\_ cm.

b.



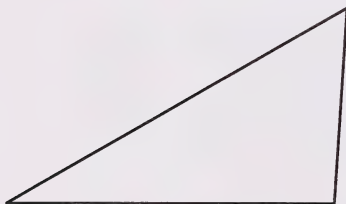
The perimeter is \_\_\_\_\_ cm.

c.



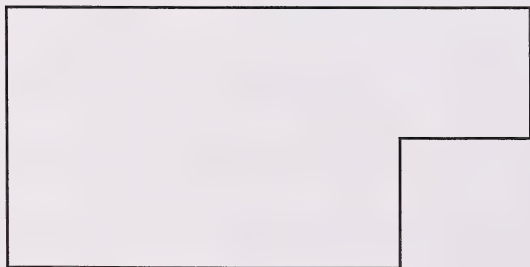
The perimeter is \_\_\_\_\_ cm.

d.



The perimeter is \_\_\_\_\_ cm.

e.

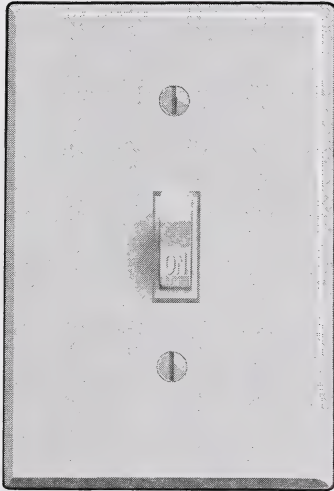


The perimeter is \_\_\_\_\_ cm.



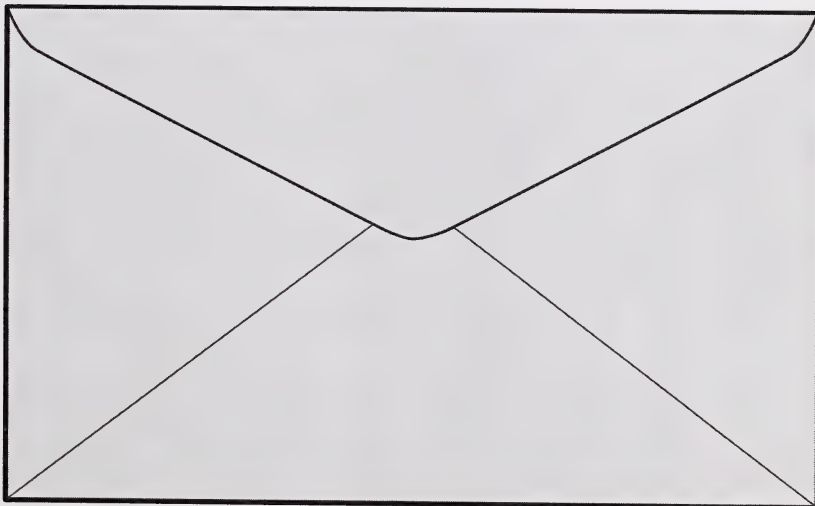
1. Use the square blocks from your pattern blocks to measure the area of the objects below.

a.



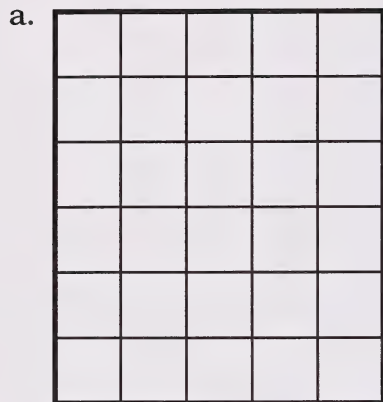
Area: \_\_\_\_\_ square units

b.



Area: \_\_\_\_\_ square units

2. Use the grid to find the perimeter and area of each shape.



Perimeter: \_\_\_\_\_ units

Area: \_\_\_\_\_ square units



Perimeter: \_\_\_\_\_ units

Area: \_\_\_\_\_ square units



Perimeter: \_\_\_\_\_ units

Area: \_\_\_\_\_ square units



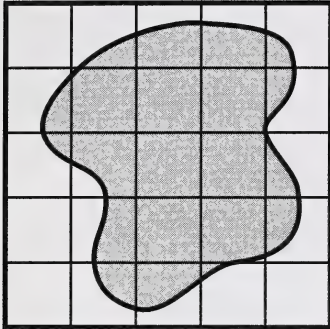
Perimeter: \_\_\_\_\_ units

Area: \_\_\_\_\_ square units



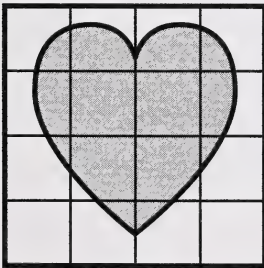
3. Use the grid to estimate the area of the shapes.

a.



Area: about \_\_\_\_\_ square units

b.



Area: about \_\_\_\_\_ square units

1. What have you noticed about the area and perimeter of shapes?

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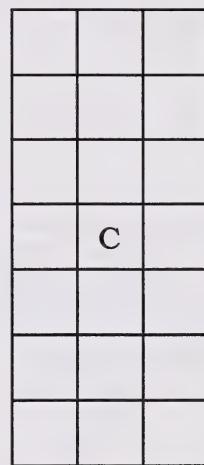
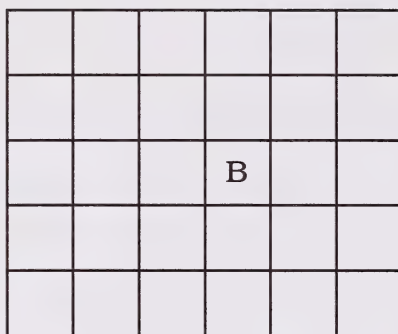
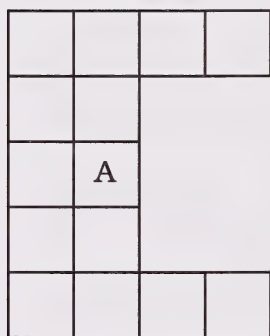


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2. a. Find the perimeter and area of each shape.



Shape A

Shape B

Shape C

Perimeter: \_\_\_\_\_ cm

Perimeter: \_\_\_\_\_ cm

Perimeter: \_\_\_\_\_ cm

Area: \_\_\_\_\_ square units

Area: \_\_\_\_\_ square units

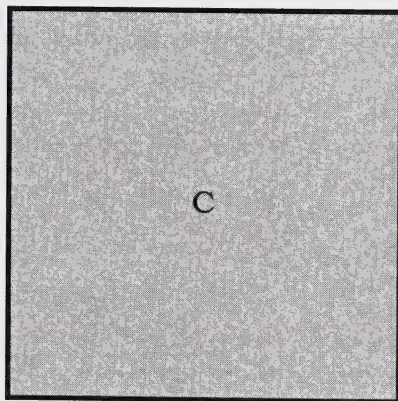
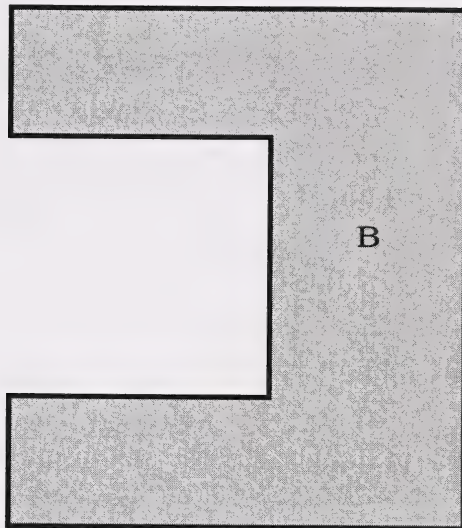
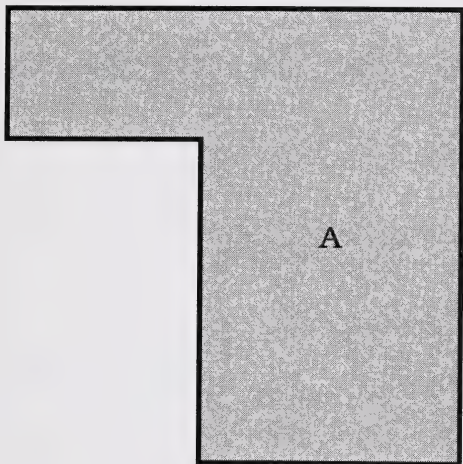
Area: \_\_\_\_\_ square units

b. Which shape has the shortest perimeter? \_\_\_\_\_

c. Which shape has the largest area? \_\_\_\_\_



Look at the shapes below. Use these shapes to answer question 3 and question 4.







3. **Estimate** to answer each question. (Use the shapes on page 13 to answer these questions.)

a. Which shape do you think has the longest perimeter?

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b. Which shape do you think has the shortest perimeter?

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c. Which shape do you think has the greatest area?

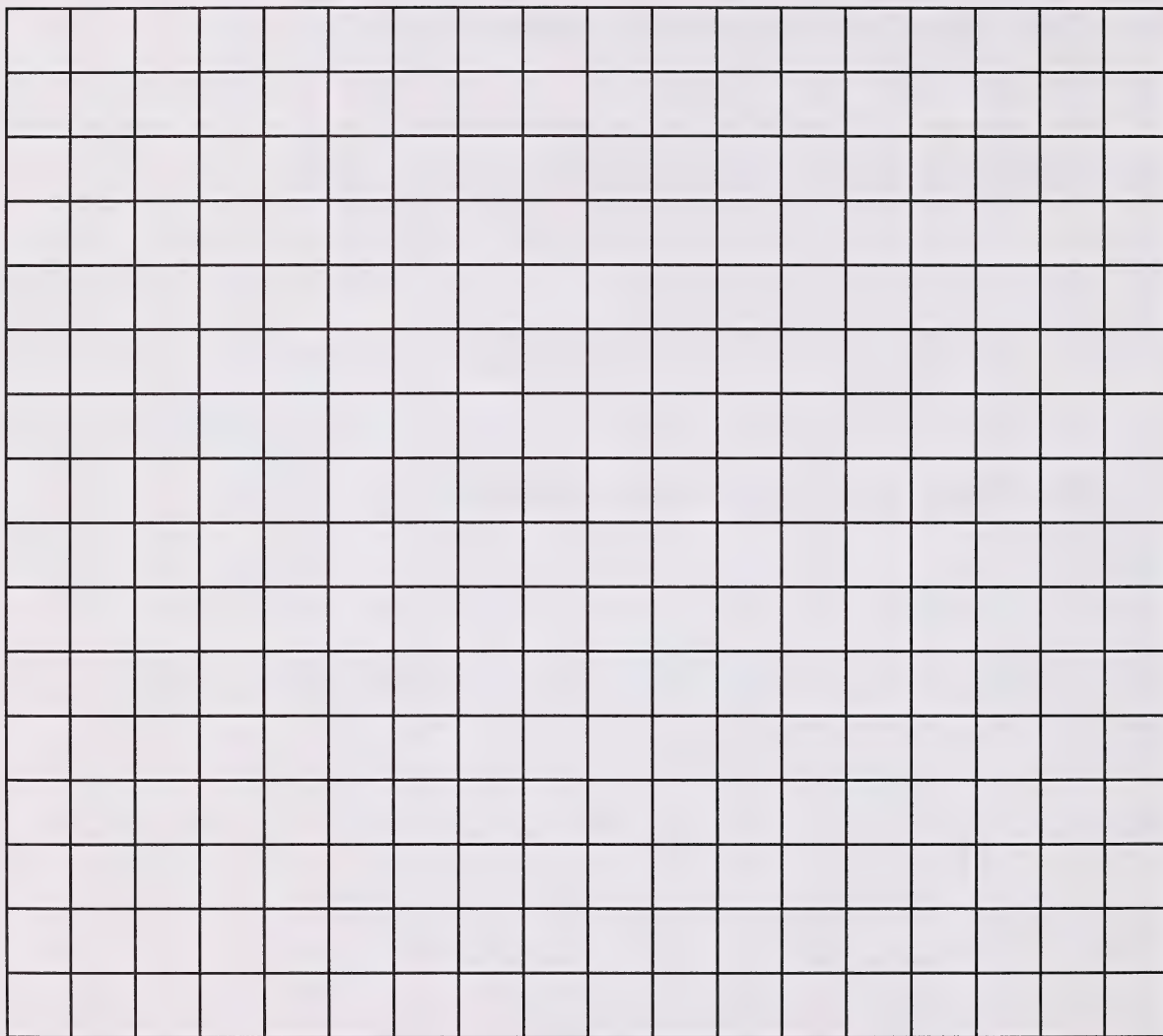
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d. Which shape do you think has the least area?

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Now, carefully cut out each shape from page 13. You will use these shapes to answer question 4.

4. Place the cutout shapes from page 13 on the grid below and trace around the outside of each shape. Then use the grid to find the area and perimeter of each.



Shape A: Perimeter = \_\_\_\_\_ units

Area = \_\_\_\_\_ square units

Shape B: Perimeter = \_\_\_\_\_ units

Area = \_\_\_\_\_ square units

Shape C: Perimeter = \_\_\_\_\_ units

Area = \_\_\_\_\_ square units

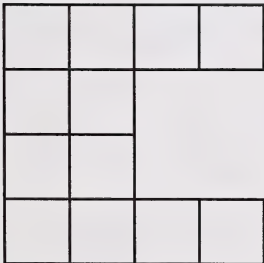
Use the leftover grid paper from your work in the Student Module Booklet to complete question 1 and question 2.

1. Find the area of the shape. Use your grid paper to cut out a different shape that has the same area. Glue it beside this shape.



\_\_\_\_\_ square units

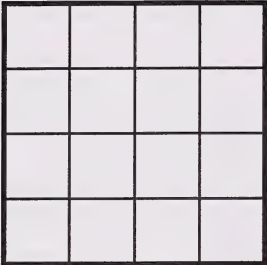
2. Find the area of the shape. Use your grid paper to cut out a different shape that has the same area. Glue it beside this shape.




\_\_\_\_\_ square units

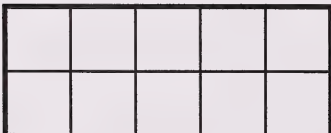


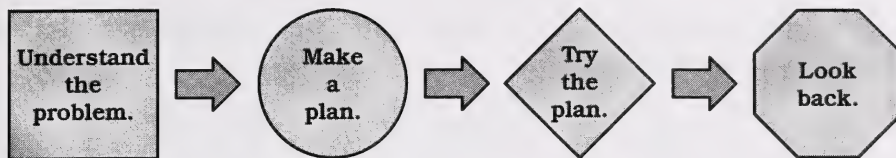
3. Use what you know about arrays to help you write a multiplication fact for each rectangle. Also, write the area of each rectangle.

a.  Multiplication Fact \_\_\_\_\_ Area \_\_\_\_\_ square units

b.  \_\_\_\_\_ \_\_\_\_\_ square units

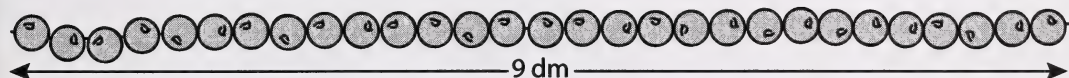
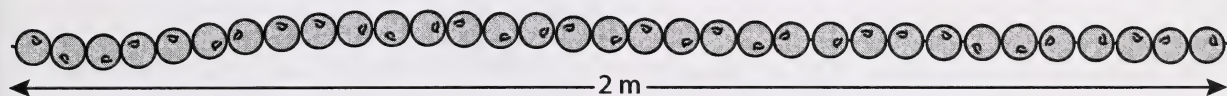
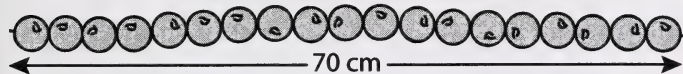
c.  \_\_\_\_\_ \_\_\_\_\_ square units

d.  \_\_\_\_\_ \_\_\_\_\_ square units



Use the problem-solving steps to solve each problem. Show your work. Write the answer in a sentence.

1. Luke made some strings of cranberries to put on his tree to feed the birds.

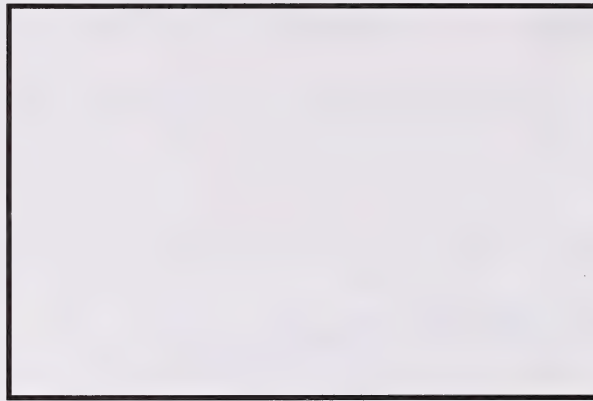


How long were the three strings altogether?

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2. Luke's mom is planning a garden for next spring. She staked out a rectangle to show where the garden will go.

6 metres



9 metres

What is the perimeter of the garden?

- 
3. The grid shows the garden marked off in units. What is the area of the garden?





**Timed exercise: 2 minutes**

Ask your Home Instructor to time you for 2 minutes. Do as many questions as you can in two minutes. Write how many you completed.

$7 \times 7 = \underline{\hspace{2cm}}$

$0 \times 6 = \underline{\hspace{2cm}}$

$9 \times 5 = \underline{\hspace{2cm}}$

$1 \times 8 = \underline{\hspace{2cm}}$

$8 \times 4 = \underline{\hspace{2cm}}$

$9 \times 3 = \underline{\hspace{2cm}}$

$3 \times 7 = \underline{\hspace{2cm}}$

$6 \times 4 = \underline{\hspace{2cm}}$

$2 \times 8 = \underline{\hspace{2cm}}$

$7 \times 6 = \underline{\hspace{2cm}}$

$5 \times 7 = \underline{\hspace{2cm}}$

$8 \times 5 = \underline{\hspace{2cm}}$

$9 \times 0 = \underline{\hspace{2cm}}$

$4 \times 4 = \underline{\hspace{2cm}}$

$4 \times 7 = \underline{\hspace{2cm}}$

$$\begin{array}{r} 6 \\ \times 3 \\ \hline \end{array}$$

$$\begin{array}{r} 5 \\ \times 2 \\ \hline \end{array}$$

$$\begin{array}{r} 9 \\ \times 4 \\ \hline \end{array}$$

$$\begin{array}{r} 4 \\ \times 1 \\ \hline \end{array}$$

$$\begin{array}{r} 2 \\ \times 7 \\ \hline \end{array}$$

$$\begin{array}{r} 9 \\ \times 0 \\ \hline \end{array}$$

$$\begin{array}{r} 5 \\ \times 5 \\ \hline \end{array}$$

$$\begin{array}{r} 6 \\ \times 6 \\ \hline \end{array}$$

$$\begin{array}{r} 8 \\ \times 3 \\ \hline \end{array}$$

$$\begin{array}{r} 2 \\ \times 9 \\ \hline \end{array}$$

<b>Number completed</b>	
<b>Number correct</b>	



**STUDENT'S CHECKLIST**  
**MODULE 5: DAYS 1 TO 9**

I can ...	Put a check mark beside the things you can do.
measure the length of objects using centimetres, decimetres, and metres	
choose the best unit to measure length or distance	
find the perimeter of a shape	
find the area of a shape in square units	
compare and order objects and shapes by length, height, perimeter, and area	

**STUDENT'S COMMENTS**

What I enjoyed most in this part of the module was \_\_\_\_\_

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Something new I learned in this part of the module was \_\_\_\_\_

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## HOME INSTRUCTOR'S CHECKLIST

Check **yes** or **not yet** for each question.

Can the student do the following?

- |   |                              |                                  |
|---|------------------------------|----------------------------------|
| • estimate, measure, and record the length of objects or shapes | <input type="checkbox"/> yes | <input type="checkbox"/> not yet |
| • describe the relationships among cm, dm, m, and km            | <input type="checkbox"/> yes | <input type="checkbox"/> not yet |
| • compare and order objects by length and height                | <input type="checkbox"/> yes | <input type="checkbox"/> not yet |
| • find the perimeter of an object                               | <input type="checkbox"/> yes | <input type="checkbox"/> not yet |
| • find the area of a shape using manipulatives or a grid        | <input type="checkbox"/> yes | <input type="checkbox"/> not yet |
| • compare and order shapes by area or perimeter                 | <input type="checkbox"/> yes | <input type="checkbox"/> not yet |
| • construct a shape of a given area                             | <input type="checkbox"/> yes | <input type="checkbox"/> not yet |
| • solve problems involving measurement                          | <input type="checkbox"/> yes | <input type="checkbox"/> not yet |

## HOME INSTRUCTOR'S COMMENTS

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